

**Title** Influence of Temperature and Humidity on Survival of *Penicillium digitatum* and *Geotrichum citri-aurantii*

**Authors** J. L. Smilanick and M. F. Mansour

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### **Abstract**

Longevity of conidia of *Penicillium digitatum* (cause of citrus green mold) and arthroconidia of *Geotrichum citri-aurantii* (cause of sour rot of citrus) was determined under controlled temperature and relative humidity (RH) or ambient summer conditions in central California. Longevity at low RH was longer than at high RH. Hours to kill 99% of the conidia (LT<sub>99</sub>) of nine *P. digitatum* isolates were determined at 50°C and 75 or 95% RH. At 75 and 95% RH, the LT<sub>99</sub> was 24.9 and 4.9 h, respectively. The LT<sub>99</sub> was 30 and 42 days, respectively, for conidia of *P. digitatum* under ambient conditions at two outdoor locations. The LT<sub>99</sub> of arthroconidia of *G. citriaurantii* from colonies cultured on potato dextrose agar was briefer than that of conidia of *P. digitatum*. At 45°C and 75 or 95% RH, the LT<sub>99</sub> was about 4 and 2 h, respectively, whereas at 50°C, none was viable after 1 h at either humidity. Sanitation is an important practice for managing these diseases. Since there was little or no survival of either fungus after 1 day at 50°C and 75% RH or higher, we conclude that commercial sanitation could employ a similar regime.